

Three creeks were surveyed for present/not-present *Rana boylei* (Foothill Yellow-Legged Frogs) as part of the Concow Pyrodiversity Project with the Butte County Resource Conservation District (RCD), in conjunction with the Big Chico Creek Ecological Reserve (BCCER). The three phases (Phase 1, Phase 2, and Phase 3) comprised of 3 creeks within the three phases. Phase 1 contained the lower length of the Flea Valley Creek (FVC). Phase 2 contained the upper section of the FVC and the length of the Dixie Road Creek (DRC). Phase 3 contained the Concow Creek (CCC). Each of the three creeks were surveyed via Visual Encounter Surveys (VES) methods in which the length of the creek was walked and all observed *R. boylei* were noted, and no *R. boylei* was physically handled for data collection. Therefore, no biometric data was collected on individual *R. boylei*, only habitat data of observed anurans were noted.

Results

Across all three creeks only the FVC and CCC had observed *R. boylei* totaling 130 observed anurans total. FVC had the largest observed population at 110 across the 4.104 km length of the FVC which averages to a single *R. boylei* every 0.037 km. CCC had 20 observed *R. boylei* across the 2.237 km creek, averaging a single *R. boylei* every 0.112 km. DRC was 1.28 km, and no *R. boylei* were observed through the surveyed creek. Of all 130 observed *R. boylei*, 2 were egg masses and 1 was a concentration of larvae. 127 post-metamorphic (62 juveniles/64 Adults) were observed in three different solar environments; 1) 101 in Direct sun, 2) 7 in partial shade, and 3) 19 were in shaded areas.

Recommended Mitigation

All federal and state mandates, regulations and laws should be followed with regards to any work in the Concow area. During any controlled burn operations, fire should be encouraged to move naturally through the valleys containing the creeks. However, no drip torch fluid should be placed near the creek. Anthropogenic hydrocarbons can adversely affect all life-stages of *R. boylei* and other native aquatic species if introduced to the creek or the watershed. *R. boylei* have suffered population declines throughout California and having a healthy population in the Concow region after the Camp fire shows that this species is resilient to natural processes. Even when accounting for the above average fire intensity of the 2018 Camp fire, there is still a healthy, and breeding population along the FVC. More research is needed to further examine the effects of fire on native anurans such as *R. boylei* and until there is conclusive, quantitative data then all mitigation should be to preserve or enhance *R. boylei* habitats.